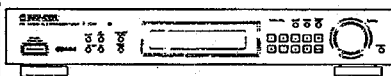


Service Manual

PIONEER®
The Art of Entertainment



ORDER NO.
ARP2891

FM/AM DIGITAL-SYNTHESIZER TUNER

F-204RDS

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	The voltage can be converted by the following method.
	F-204RDS		
HEXK	○	AC 220-230V	AC240V, *
HBWXX	○	AC230V	AC240V, *
HEWZXX	○	AC220-230V	AC240V, *
HEWIXK	○	AC220-230V	AC240V, *

* : Alter the wiring of the Power-supply block at the primary winding of Power-transformer referring to the "Line Voltage Selection" described in Service Manual.

●For HBWXX, HEWZXX and HEWIXK types, refer to page 27.

CONTENTS

1. EXPLODED VIEWS ,PACKING AND PARTS LIST	2	6. FL INFORMATION	24
2. BLOCK DIAGRAM	5	7. IC INFORMATION	25
3. SCHEMATIC AND PCB CONNECTION DIAGRAMS	6	8. FOR HBWXX, HEWZXX AND HEWIXK TYPES	27
4. PCB PARTS LIST	20	9. CONNECTIONS	29
5. ADJUSTMENTS	22	10. PANEL FACILITIES	30
		11. SPECIFICATIONS	32

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1. EXPLODED VIEWS, PACKING AND PARTS LIST

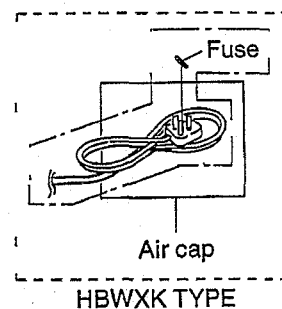
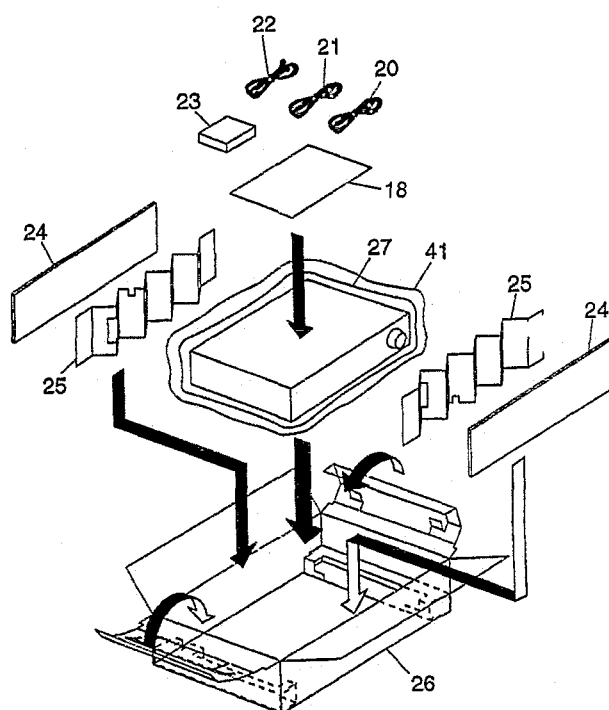
NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "☉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

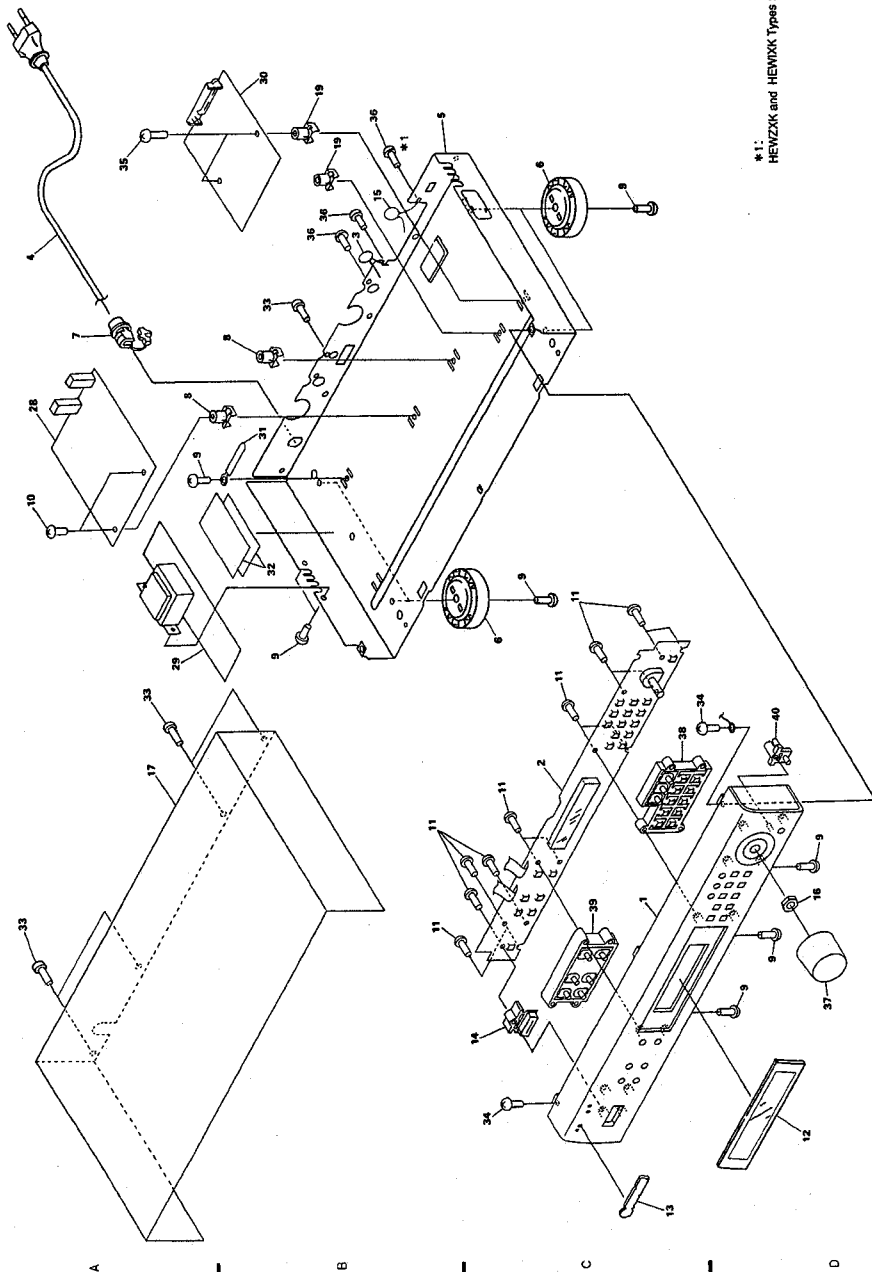
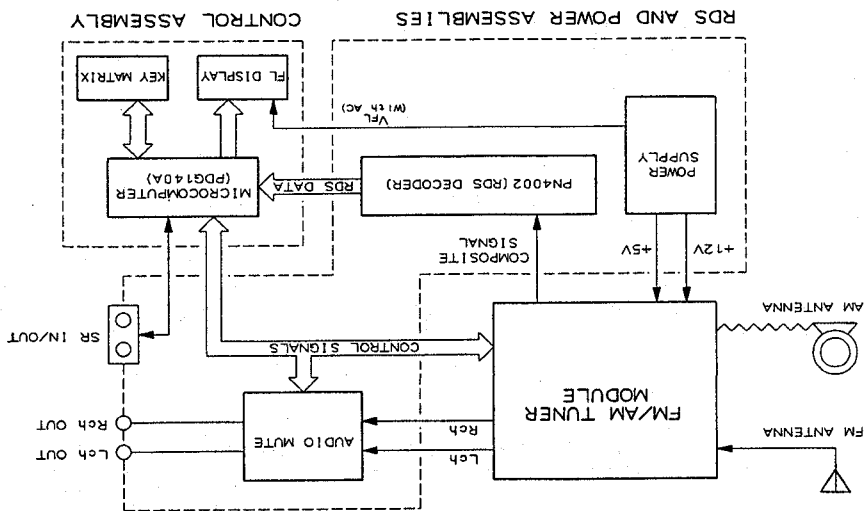
PARTS LIST (for F-204RDS/HEXK)

Mark	No.	Description	Parts No.
	1	FRONT PANEL (PLS)	AMB7241
	2	CONTROL ASS'Y	AWZ7714
	3	C1 CERAMIC CAPACITOR	CCDSL221J50
Δ	4	AC POWER CORD	ADG1138
	5	CHASSIS (MET)	ANA1478
	6	INSULATOR	PNW1912
Δ	7	STRAIN RELIEF	AEC-882
NSP	8	PCB MOULD	AMR1525
	9	SCREW	ABA-298
	10	SCREW	ABA1018
	11	SCREW	BPZ26P080FMC
	12	FL PANEL (PLS)	AAK7132
	13	NAME PLATE	PAM1608
	14	POWER BUTTON (ABS)	AAD2425
	15	C2 CERAMIC CAPACITOR	CKDYB102K50
	16	NUT	NK70FUC
	17	BONNET(FE)	ANE7058
	18	OPERATING INSTRUCTIONS (English/French/German/Italian/ Swedish/Dutch/Spanish/Portuguese)	ARE7031
NSP	19	PCB MOULD	AMR2115
	20	CORD WITH PLUG	PDE1249
	21	CORD WITH PLUG	PDE1095
	22	FM ANTENNA	ADH7001
	23	LOOP ANTENNA	ATB7001
	24	SPACER (PAP)	AHA7058
	25	SPACER (PAP)	AHA7074
	26	PACKING CASE	AHD7133
	27	PACKAGING SHEET	AHG1107
	28	RDS ASS'Y	AWZ7711
NSP	29	POWER ASS'Y	AWZ7709
	30	FM/AM TUNER MODULE	AXQ7040
	31	BINDER	AEP-215
NSP	32	BARRIER	AEC1416
	33	SCREW (STEEL)	ABA1006
	34	SCREW (STEEL)	ABA1011
	35	SCREW	ABA1024
	36	SCREW (STEEL)	ABA1047
	37	ROTARY KNOB M (PLS)	AAB7049
	38	HINGE BUTTON A (PLS)	AAD7162
	39	HINGE BUTTON B (PLS)	AAD7164
	40	HINGE BUTTON C (PLS)	AAD7166
NSP	41	VINYL SHEET	AHG7013

● PACKING



2. BLOCK DIAGRAM



NOTE: Screws adjacent to ▼ mark on product are used for disassembly.

3. SCHEMATIC AND PCB CONNECTION DIAGRAMS

NOTE FOR SCHEMATIC DIAGRAMS

(Type-3A)

1. When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".

2. Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.

3. RESISTORS:

Unit: k: k Ω , M: M Ω , or Ω unless otherwise noted.

Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.

Tolerance: (F): $\pm 1\%$, (G): $\pm 2\%$, (K): $\pm 10\%$, (M): $\pm 20\%$ or $\pm 5\%$ unless otherwise noted.

4. CAPACITORS:

Unit: p: pF or μ F unless otherwise noted.

Ratings: capacitor (μ F)/ voltage (V) unless otherwise noted.

Rated voltage: 50V except for electrolytic capacitors.

5. COILS:

Unit: m: mH or μ H unless otherwise noted.

6. VOLTAGE AND CURRENT:

$\frac{mV}{\square}$: Signal voltage at FM 1kHz, 100% MOD.

or \square - V :

DC voltage (V) at no input signal unless otherwise noted.

Value in () is DC voltage at rated power.

\square mA or \square - mA :

DC current at no input signal unless otherwise noted.

7. OTHERS:

\odot or \ominus : Adjusting point.

\bullet or \blacktriangle : Measurement point.

The Δ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.

8. SCH- \square ON THE SCHEMATIC DIAGRAM:

* SCH- \square indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)

9. SWITCHES (Underline indicates switch position):

CONTROL ASSY

S401: POWER(STANDBY/ON)

S402: AM

S403: FM

S404: DISPLAY MODE

S405: CHARACTER/SEARCH

S406: MPX MODE(AUTO/MONO)

S407: MEMORY

S410: 5

S411: 4

S412: 3

S413: 2

S414: 1

S415: 6

S416: 7

S417: 8

S418: 9

S419: 0/10

S420: DIRECT

S421: CLASS

S422: RF ATT


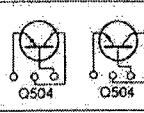

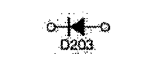

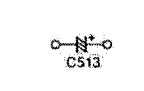
S423: TUNING

S424: TUNING MODE

NOTE FOR PCB DIAGRAMS:

1. Part numbers in PCB diagrams match those in the schematic diagrams.

2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Diode
		Capacitor (Polarized)

3. The transistor terminal marked with E or C shows the emitter.

4. The diode terminal marked with \ominus or C shows cathode side.

5. The capacitor terminal marked with \ominus or C shows negative terminal.

6. The parts mounted on each PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.

3.1 RDS, POWER AND CONTROL ASSEMBLIES

Line Voltage Selection

Line Voltage can be changed by the following modification:

1. Disconnect the AC power cord.

2. Remove the cover.

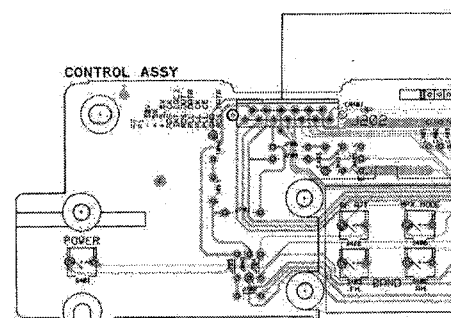
3. Change the position of the jumper-lines as follows.

Voltage	jumper-line position
220V—230V	①
240V	②

NOTE: When replacing a PCB which has the primary winding circuit of Power-transformer, be sure to compare its circuit with the diagram in Service Manual. Jumper-lines on the PCB may have to be removed. Forgetting this check-up will cause a serious damage.

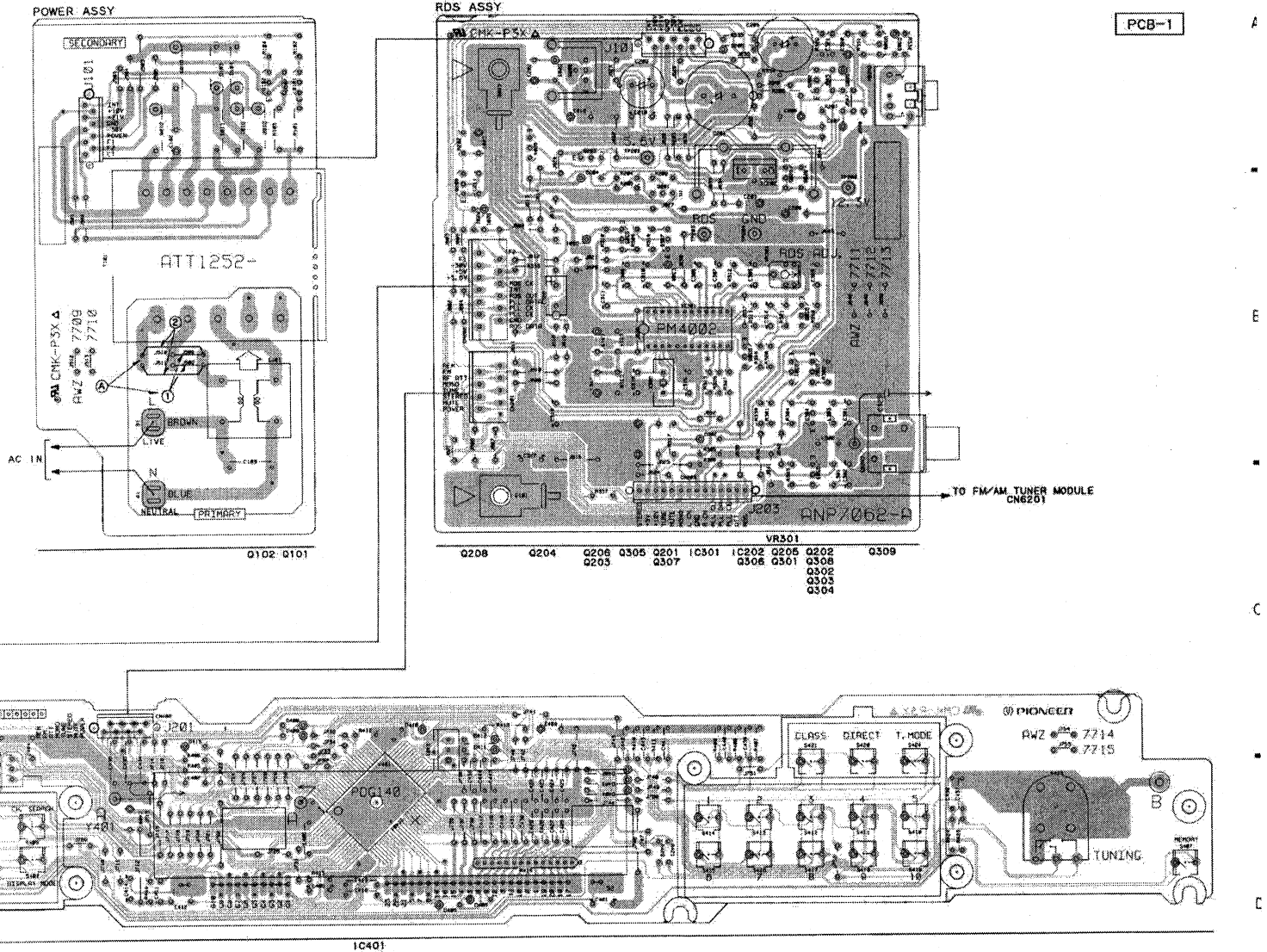
4. Stick a line voltage label on the rear panel.

Part No.	Description
AAX-193	220V label
AAX-192	240V label



G401

● This diagram is viewed from the mounted parts side.



A

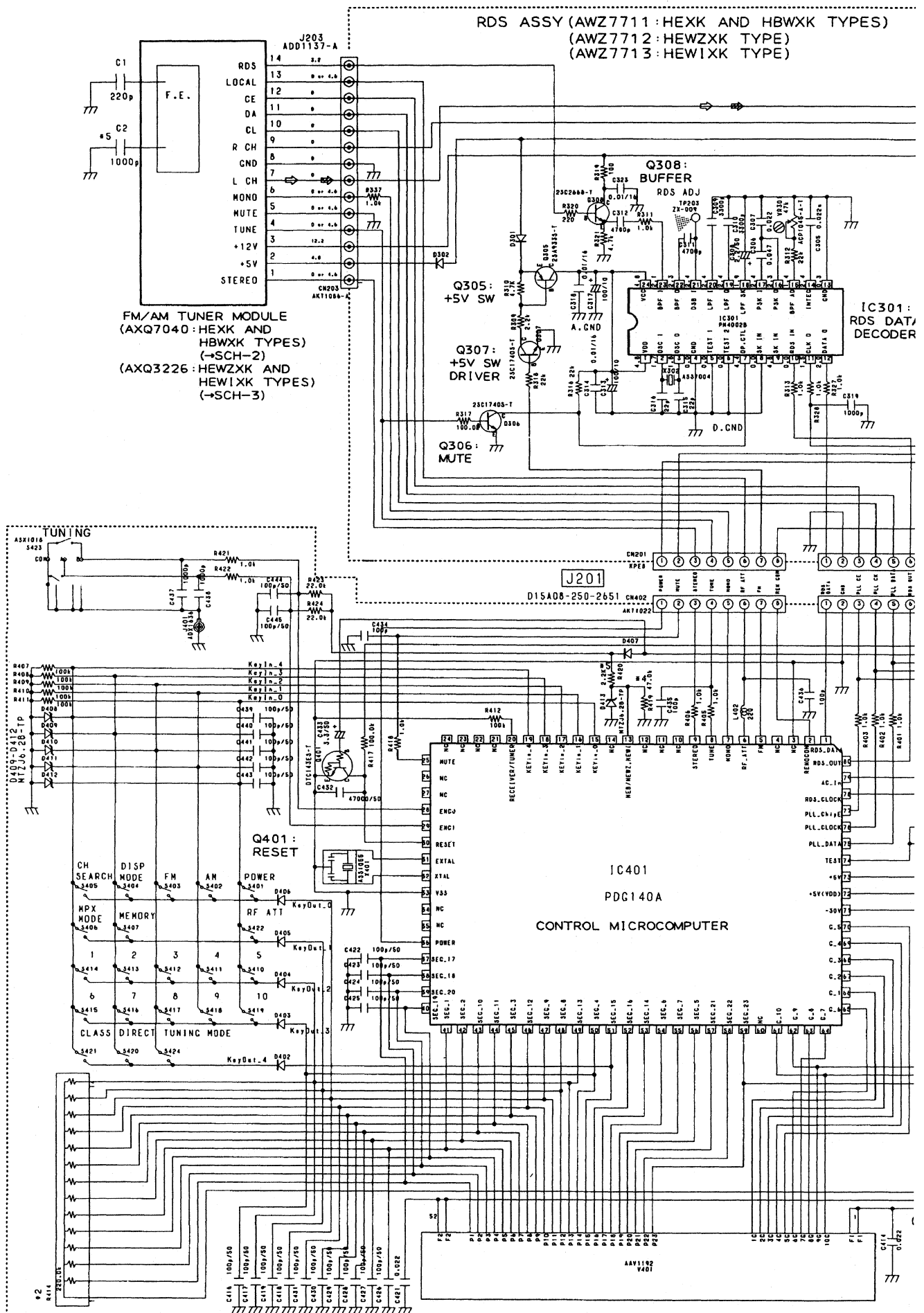
B

C

D

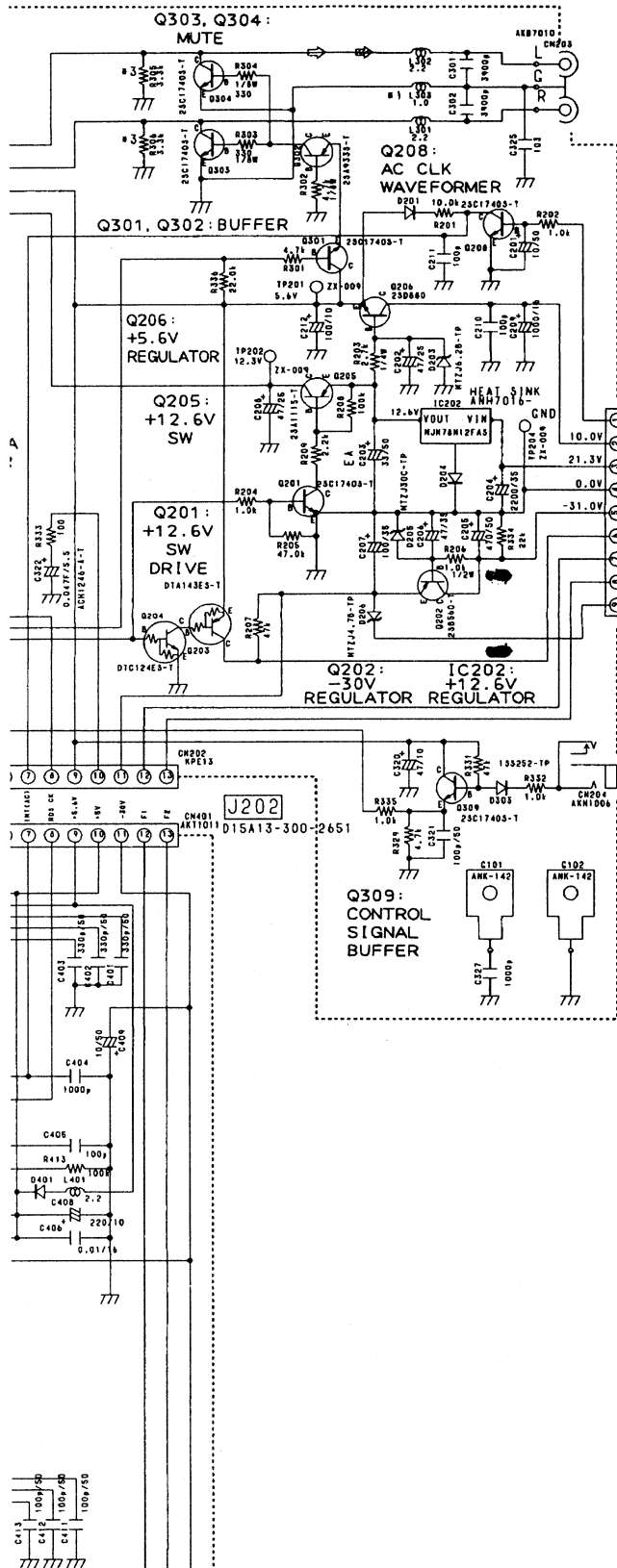
E

F



Q303, Q304:
MUTE

Q301, Q302: BUFFER

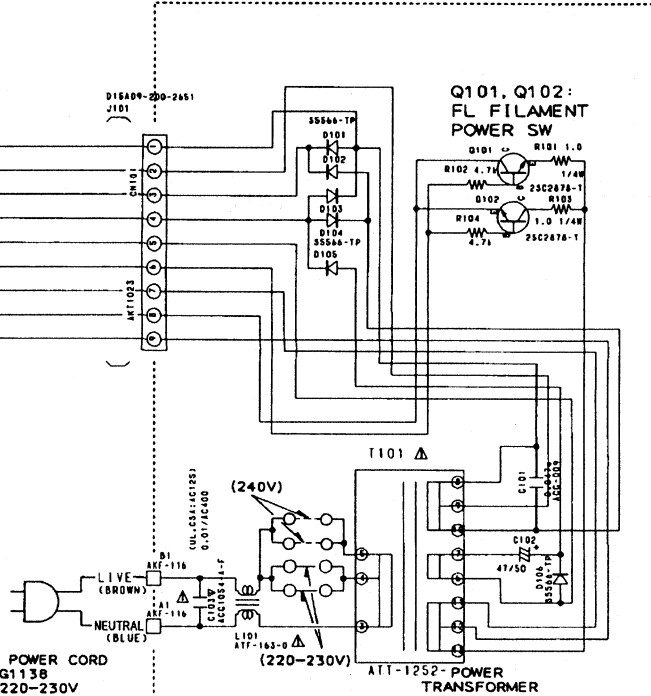
Q206:
+5.6V
REGULATORQ205:
+12.6V
SWQ201:
+12.6V
DRIVEQ202:
30V
REGULATORIC202:
+12.6V
REGULATORQ309:
CONTROL
SIGNAL
BUFFER

CONTROL ASSY
(AWZ7714: HEXK AND
HBWXX TYPES)
(AWZ7715: HEWZXX AND
HEWIXK TYPES)

⚡: FM Signal route
⇨: AM Signal route

SCH-1

POWER ASSY
(AWZ7709: HEXK AND HBWXX TYPES)
(AWZ7710: HEWZXX AND HEWIXK TYPES)



- #1 HEWZXX, HEWIXK USE 2.2uH
- #2 USE ONETIME MICROPROCESSOR ONLY
- #3 HEXK, HBWXX, HEWIXK ONLY USE
- #4 HEWZXX, HEWIXK use 100kohm
- #5 HEXK, HBWXX ONLY USE

△

Noted

1. Resistors

Indicated in ohm 1/8W - 5%
tolerance
unless otherwise noted
K=kohm, M=Mohm

2. Capacitors

Indicated in
capacity(uF)/voltage(v)
unless otherwise noted
Indication without voltage is 50v
except electrolytic capacitor.

3.2 FM/AM TUNER MODULE (FOR HEXK AND HBWXX TYPES)

FM/AM TUNER MODULE (AXQ7040:HEXK AND HBWXX TYPES)

A

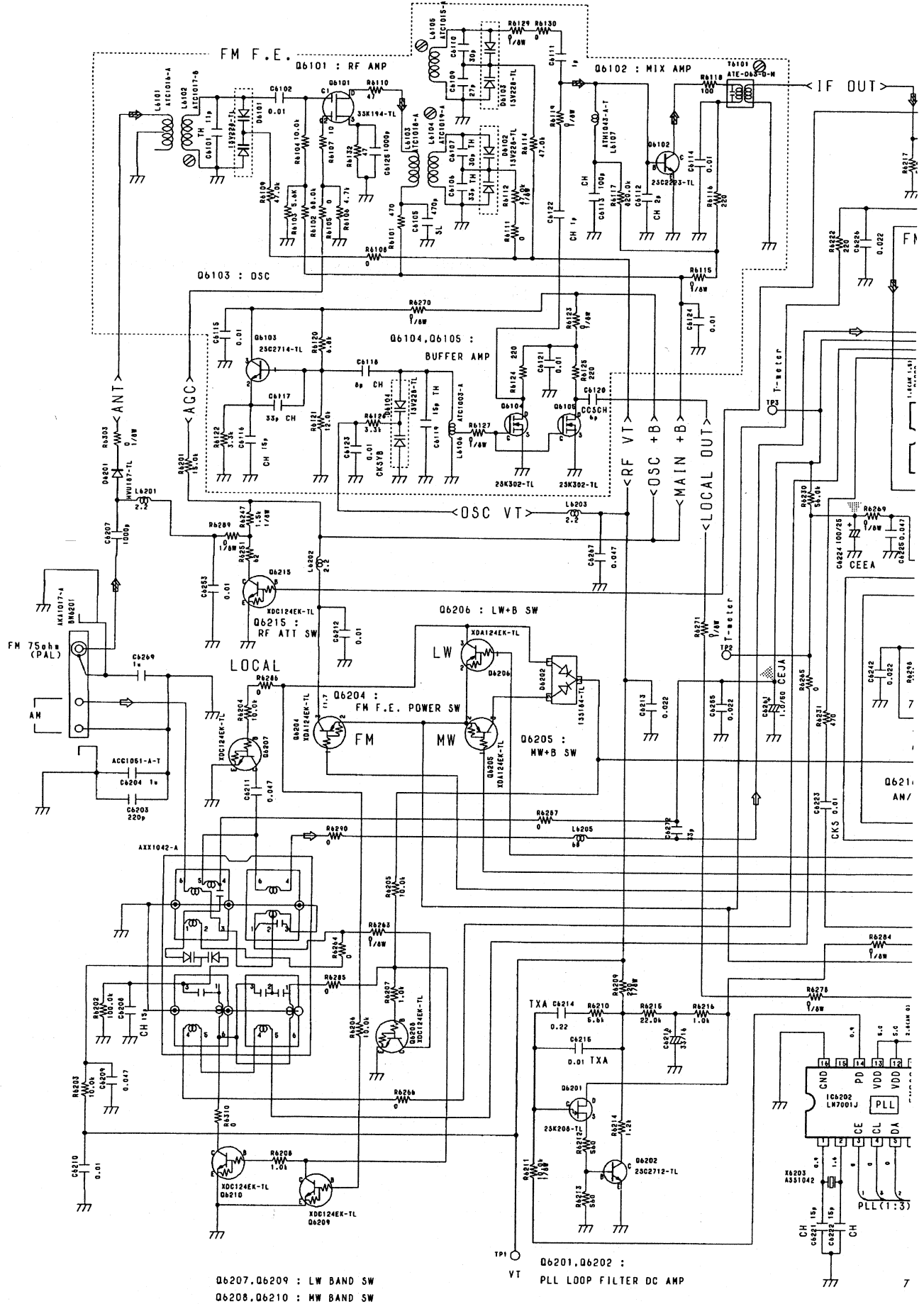
B

C

D

E

F



SCH-2

◇ : FM Signal route
 ▷ : AM Signal route

A

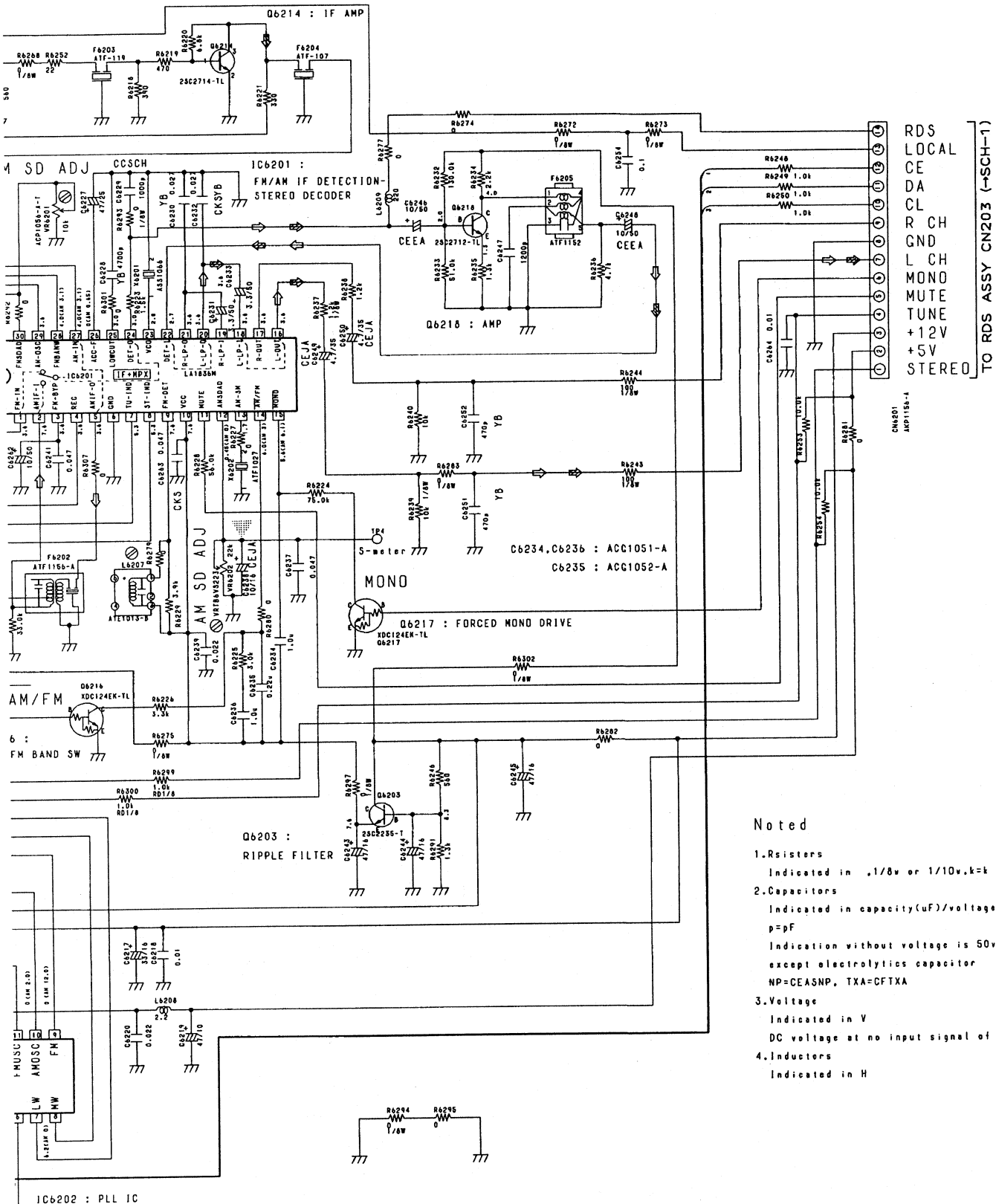
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C

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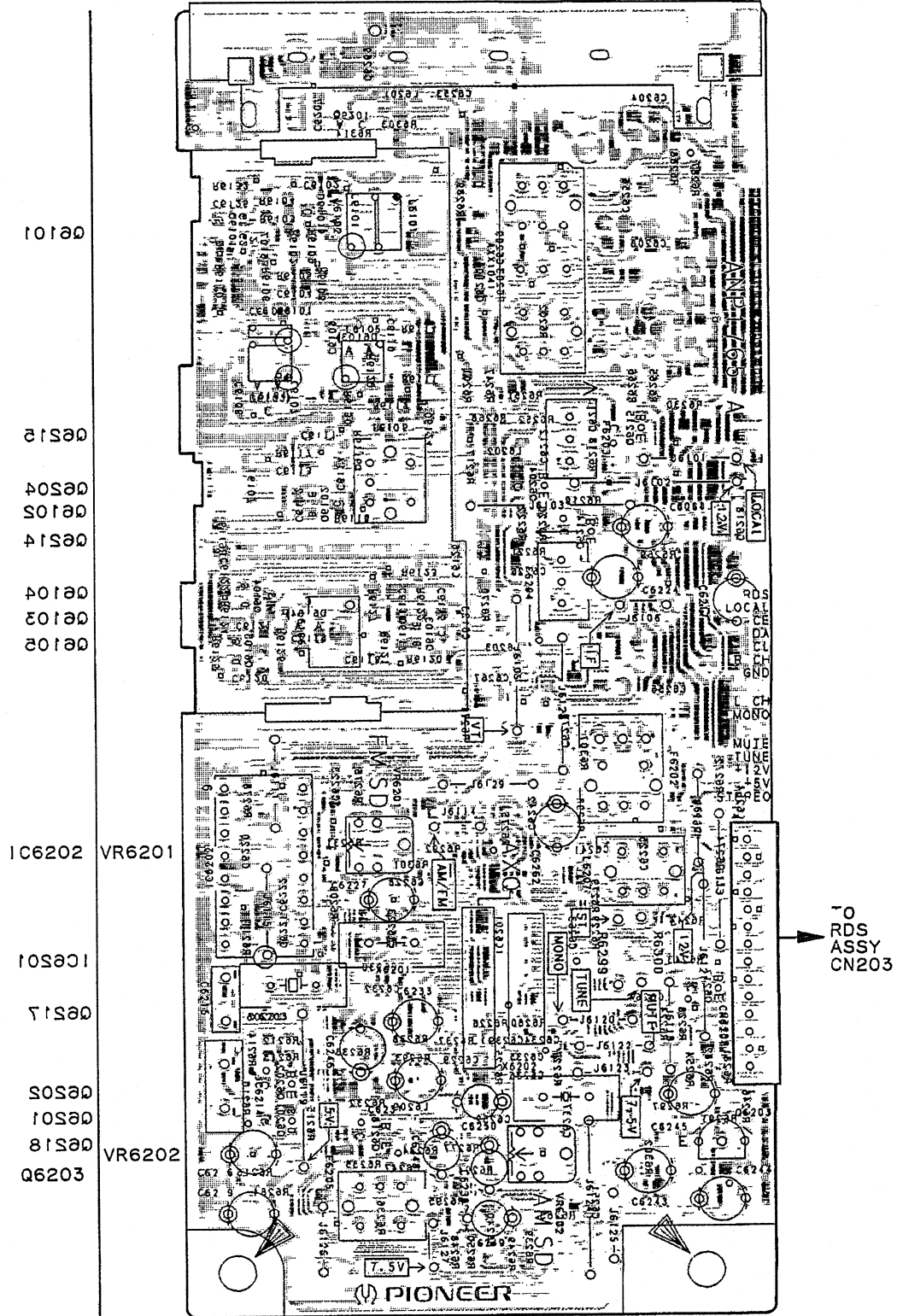


3.3 FM/AM TUNER MODULE (FOR HEWZXX AND HEWIXK TYPES)

● This diagram is viewed from the mounted parts side.

PCB-3

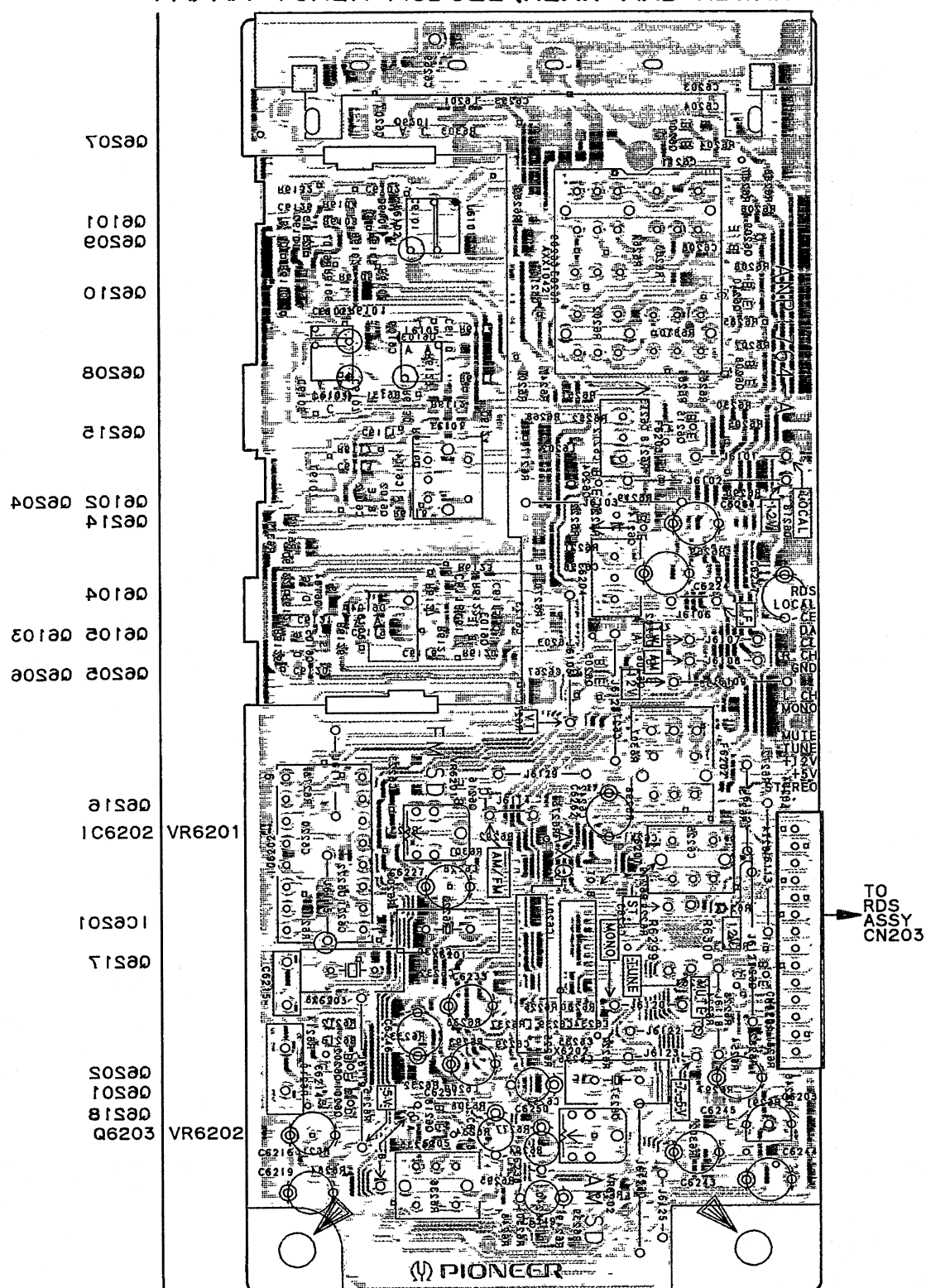
FM/AM TUNER MODULE (HEWIXK AND HEWZXX TYPES)



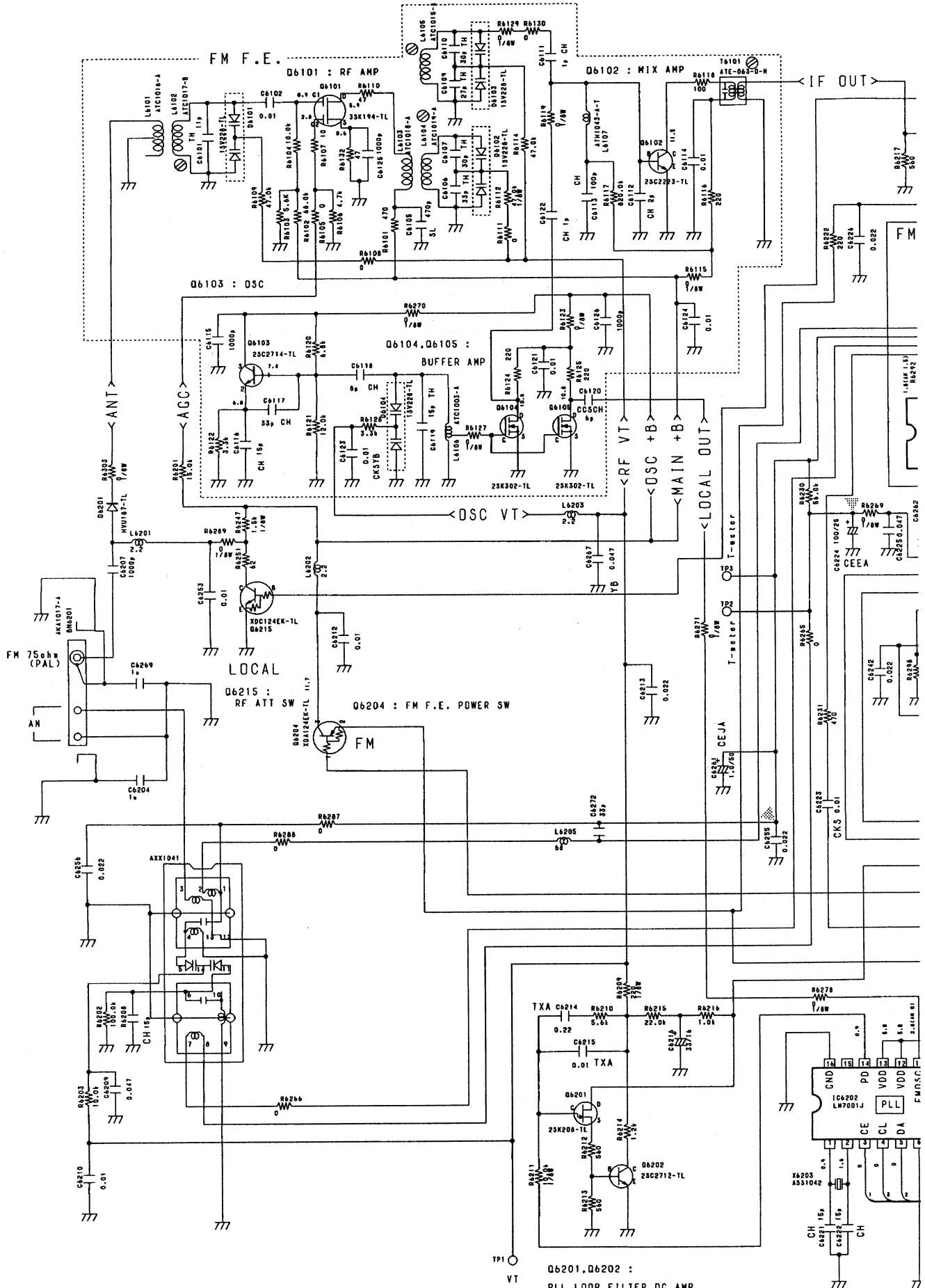
● This diagram is viewed from the mounted parts side.

PCB-2

FM/AM TUNER MODULE (HEXK AND HBWXX TYPES)



FM/AM TUNER MODULE (AXQ3226:HEWZXK AND HEWIXK TYPES)



SCH-3

FM/AM TUNER MODULE
(FOR HEWZXK AND HEWIXK TYPES)

SCH-3

A

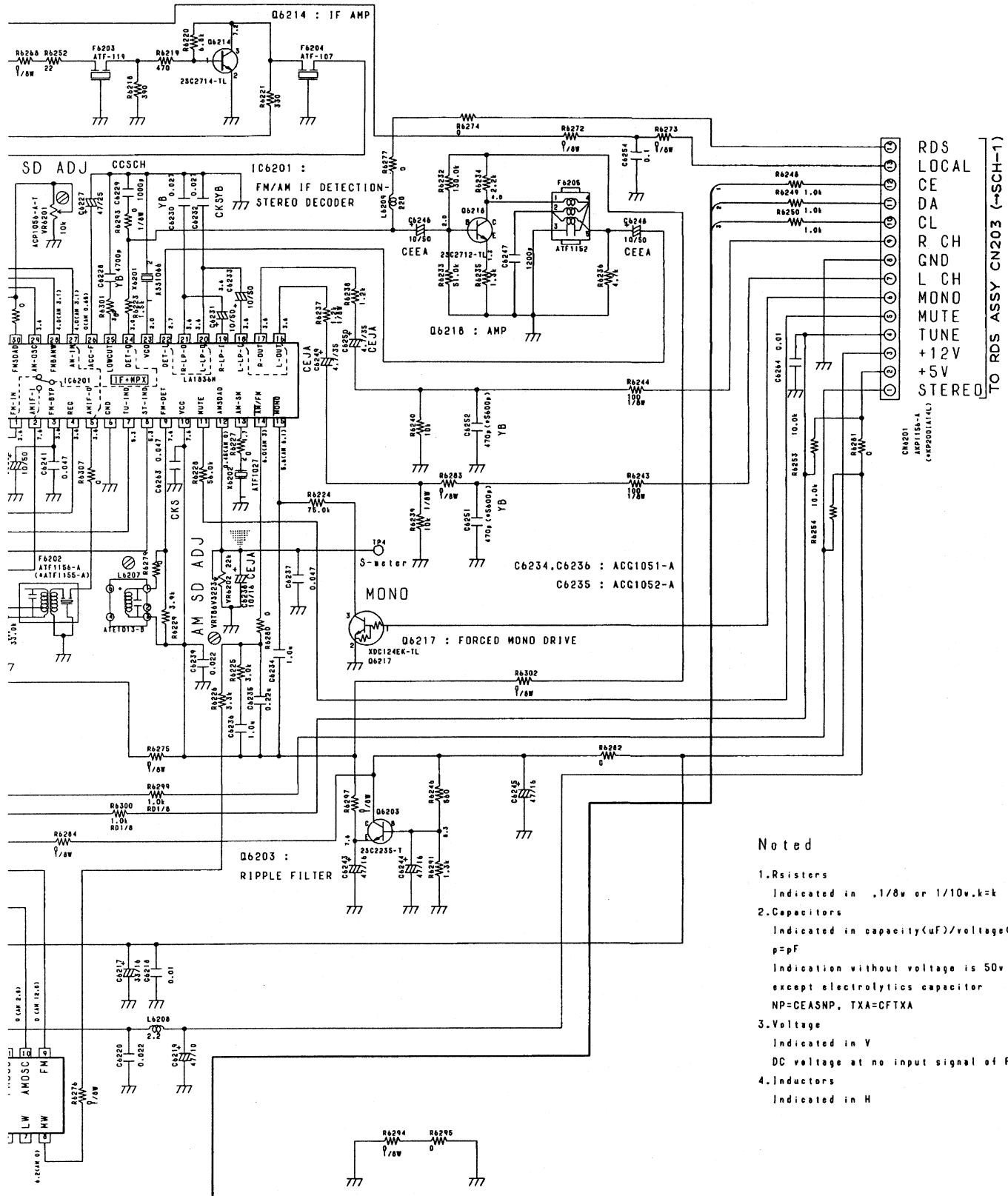
B

C

D

E

F

FM/AM TUNER MODULE
(FOR HEWZXX AND HEWIXX TYPES)

SCH-3

4. PCB PARTS LIST (for F-204RDS/HEXK)

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "C" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.
Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohms and 47k ohms (Tolerance is shown by J = 5%, and K = 10%).
560 Ω \rightarrow 56 X 10¹ \rightarrow 561 \rightarrow RD1/8PM 561 J
47k Ω \rightarrow 47 X 10³ \rightarrow 473 \rightarrow RD1/4PS 473 J
0.5 Ω \rightarrow 0R5 \rightarrow RN2H 0R5 K
1 Ω \rightarrow 010 \rightarrow RS1P 010 K
Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).
5.62k Ω \rightarrow 562 X 10¹ \rightarrow 5621 \rightarrow RN1/4PC 5621 F

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
LIST OF ASSEMBLIS							
NSP	TUNER ASSY			D201	D204	D301	D303
	POWER ASSY			D205			
	RDS ASSY			D206			
	CONTROL ASSY			D203			
FM/AM TUNER MODULE				L303			
				L301	L302		
				C322	(47mF/5.5)		
				C315	C316		
				C210			
				C201			
				C212	C313	C317	
				C207			
				C209			
				C204			
				C308			
				C202	C208	C320	
				C206			
				C205			
				C203			
				C319	C327		
				C309	C310		
				C301	C302		
				C311	C312		
				C307			
				C305			
				C306			
				C325			
				C211	C321		
				C314	C318	C323	
				RESISTORS			
				R206			
				R203			
				VR301			
				Other Resistors			
				AB4-298			
				AKB7010			
				AKN1006			
				AKT1023			
				AKT1086			
				ASS7004			
				KPE13			
				KPE8			
				CN201	CONNECTOR(8P)		
				CN202	CRYSTAL RESONATOR (4.332MHz)		
				CN203	CRYSTAL RESONATOR (14P)		
				CN204	CRYSTAL RESONATOR (13P)		
				CN205	2P PIN JACK		
				CN206	JACK		
				CN207	CABLE HOLDER		
				CN208	CABLE HOLDER (14P)		
				CN209	CRYSTAL RESONATOR (4.332MHz)		
				CN210	CONNECTOR(8P)		
				CN211	CONNECTOR(8P)		
				CN212	CRYSTAL RESONATOR (4.332MHz)		
				CN213	CRYSTAL RESONATOR (4.332MHz)		
				CN214	CRYSTAL RESONATOR (4.332MHz)		
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				CN319	CRYSTAL RESONATOR (4.332MHz)		
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				CN437	CRYSTAL RESONATOR (4.332MHz)		
				CN438	CRYSTAL RESONATOR (4.332MHz)		
				CN439	CRYSTAL RES		

5. ADJUSTMENTS

■ AM Tuner Section

- Set the mode selector to AM BAND.
- Connect the wiring as shown in Fig. 1.

Step No.	Adjustment Title	AM SG(400Hz, 30% Mod.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency(kHz)	Level(dBμV/m)			
1	TUNED IND. Lighting level	999	47 ± 2	999kHz	VR6202	Adjust so that the indicator of TUNED IND. starts to light up.

■ FM Tuner Section

- Set the mode selector to FM BAND.
- Connect the wiring as shown in Fig. 1.

Step No.	Adjustment Title	FM SG(1kHz, ±75kHz dev.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency(MHz)	Level(dBμV)			
1	Center Adjustment	98 Non modulation	80 or more	98MHz	L6207	Adjust so that the DC voltage between Pin 4 and Pin 28 (or ⊕ leads of C6224 and C6261) of IC 6201 becomes 0V ± 50mV.
2	Front End Sensitivity	98	10-30	98MHz	L6104 *1 L6105 L6102 T6101	Adjust so that the DC voltage between Pin 12 (or ⊕ lead of C6238) of IC6201 (S-meter) and GND becomes at maximum level.
3	TUNED IND. Lighting Level	98	15 ± 2	98MHz	VR6201	Adjust so that the indicator of TUNED IND. starts to light up.
4	SK Level Adjustment	88 EXTERNAL*2 (RDS SG)	60	88MHz (RF ATT ON)	VR301	Adjust so that the output level 57kHz between TP 203 and GND becomes maximum.

*1 : HEWZXX and HEWIXK types only.

*2 : RDS SG (AUDIO, PILOT, RDS, BK and DK : OFF, SK : ON)

Notes:

- Before adjusting, make sure there is no gap between L6101 and L6102. If there is a gap between them, bring them into contact with each other first, and then make adjustments.
- Make indicator adjustments in order of AM → FM.

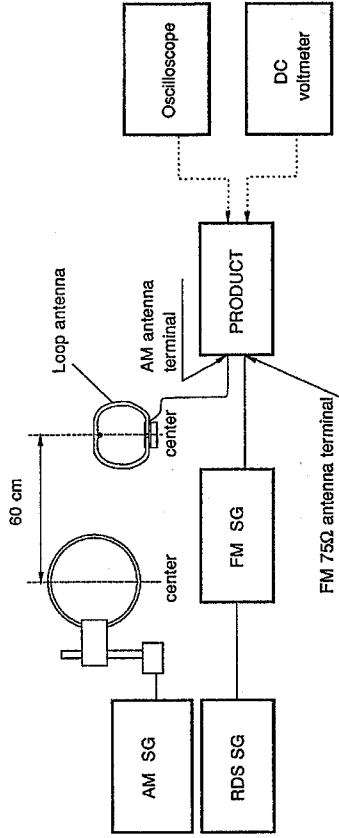


Fig. 1 FM and AM adjustment wiring diagram

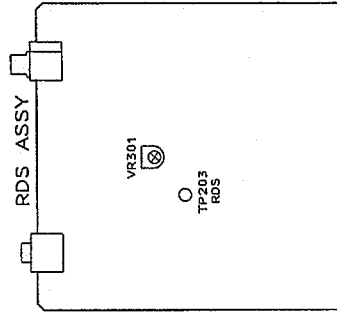
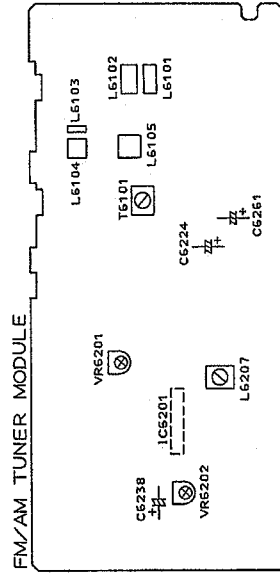


Fig. 2 Adjustment Points

6. FL INFORMATION

● **AAV1192**

PIN LOCATION

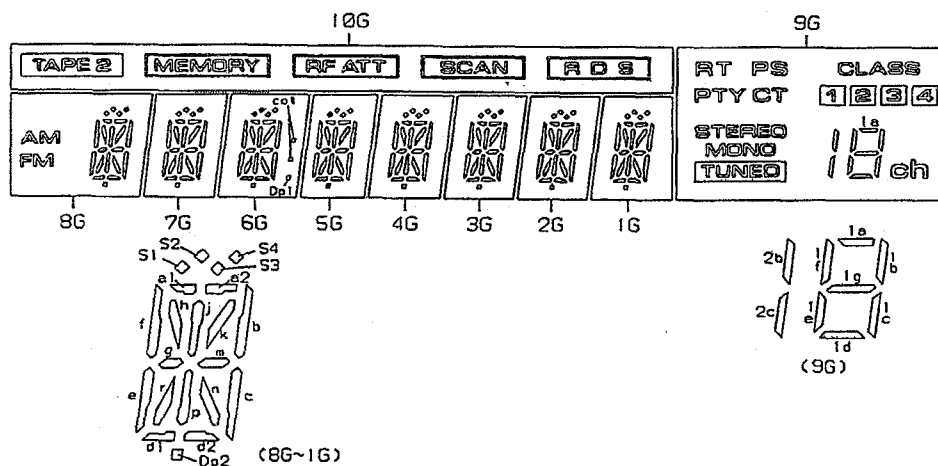


PIN CONNECTION

[illegible]

NOTE 1) F1, F2 --- Filament
2) NP ----- No pin
3) NX ----- No extend pin
4) DL ----- Datum Line
5) 1G~10G --- Grid

GRID ASSIGNMENT



ANODE CONNECTION

Probe connection	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	-	TUNED	S1	S1	S1	S1	S1	S1	S1	S1
P2	-	STEREO	S2	S2	S2	S2	S2	S2	S2	S2
P3	-	②	S4	S4	S4	S4	S4	S4	S4	S4
P4	-	③	S3	S3	S3	S3	S3	S3	S3	S3
P5	MEMORY	MONO	a1	a1	a1	a1	a1	a1	a1	a1
P6	RFATT	④	a2	a2	a2	a2	a2	a2	a2	a2
P7	-	CLAS8	h	h	h	h	h	h	h	h
P8	-	①	j	j	j	j	j	j	j	j
P9	TAPE 2	2b	b	b	b	b	b	b	b	b
P10	-	RT	k	k	k	k	k	k	k	k
P11	-	1a	g	g	g	g	g	g	g	g
P12	-	1b	f	f	f	f	f	f	f	f
P13	-	2c	m	m	m	m	m	m	m	m
P14	SCAN	CT	c	c	c	c	c	c	c	c
P15	-	PTY	p	p	p	p	p	p	p	p
P16	-	PS	r	r	r	r	r	r	r	r
P17	-	1g	n	n	n	n	n	n	n	n
P18	-	1e	d1	d1	d1	d1	d1	d1	d1	d1
P19	-	1c	e	e	e	e	e	e	e	e
P20	ADS	1d	d2	d2	d2	d2	d2	d2	d2	d2
P21	-	1f	Dp2	Dp2	Dp2	Dp2	Dp2	Dp2	Dp2	Dp2
P22	-	ch	AM	-	colt	-	-	-	-	-
P23	-	-	FM	-	Dol	-	-	-	-	-

7. IC INFORMATION



● The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

■ PDG140A (IC401)

● CONTROL MICROCOMPUTER

● Pin Function

No.	NAME	I/O	FUNCTION	ACT
1	RDS DATA	I	Data from LC7073 input	—
2	REMOCON	I	REMOCON signal input	—
3	NOT USED	I	GND standard electric potential	—
4	NC	O	Not used	—
5	FM	O	FM BAND select output	H
6	RF ATT	O	RF ATT ON/OFF output	H
7	MONO	O	FM MONO output	H
8	TUNE	I	TUNE indicator signal input	L
9	STEREO	I	STEREO indicator signal input	L
10	NC	O	Not used	—
11	DIRECT	O	DIRECT ON/OFF (Receiver only) *1	H
12	LW be or not	I	L: LW not being H: LW being (Tuner only) *1	—
13	LOUDNESS	O	LOUDNESS ON/OFF (Receiver only) *1	H
14	K10	I	KEYSCAN input 0	H
15	K11	I	KEYSCAN input 1	H
16	K12	I	KEYSCAN input 2	H
17	K13	I	KEYSCAN input 3	H
18	K14	I	KEYSCAN input 4	H
19	RECEIVER/TUNER	I	Change-over of RECEIVER/TUNER (L: Tuner H: Receiver)	—
20	K15	I	KEYSCAN input 5 (Receiver only) *1	H
21	K16	I	KEYSCAN input 6 (Receiver only) *1	H
22	REMOCON be or not	I	Change-over of destination (Receiver only) *1	H
23	NC		Not used	—

No.	NAME	I/O	FUNCTION	ACT
24	FUNCTION ST	O	Change-over of FUNCTION IC (TC9164N) Strobe (Receiver only) *1	
25	MUTE	O	TUNER, MUTE control output	H
26	VOL UP	O	VOLUME UP output	H
27	VOL DOWN	O	VOLUME DOWN output	H
28	Rotary input	O	Rotary encoder input A (Tuner only) *1	H
29	Rotary input	O	Rotary encoder input B (Tuner only) *1	H
30	RST	I	Reset input	
31	EX' TAL		Connecting 7.7 MHz oscillation crystal between pins	—
32	X' TAL			—
33	Vss		GND standard electric potential	—
34	NC		Not used	—
35	FL AC	O	FC AC ON/OFF	L
36	POWER	O	POWER ON/OFF	H
37	Seg 17	O	Segment indication output	H
38	Seg 18	O		
39	Seg 20	O		
40	Seg 19	O		
41	Seg 1	O		
42	Seg 2	O		
43	Seg 10	O		
44	Seg 11	O		
45	Seg 3	O		
46	Seg 12	O		
47	K00/S9	O	Segment indication output / KEYSCAN output	H

No.	NAME	I/O	FUNCTION	ACT
48	K01/S8	O	Segment indication output / KEYSCAN output	H
49	K02/S13	O		
50	K03/S4	O		
51	K04/S15	O		
52	Seg 16	O	Segment indication output	H
53	Seg 14	O		
54	Seg 6	O		
55	Seg 7	O		
56	Seg 5	O		
57	Seg 21	O		
58	Seg 22	O		
59	Seg 23	O		
60	Seg 24	O	Segment indication output (Receiver only) *1	H
61	R: G 1 T: G 10	O	Grid FL indication output	H
62	R: G 2 T: G 9	O		
63	R: G 3 T: G 8	O		
64	R: G 4 T: G 7	O		
65	R: G 5 T: G 6	O		
66	R: G 6 T: G 1	O		
67	R: G 7 T: G 2	O		
68	R: G 8 T: G 3	O		
69	R: G 9 T: G 4	O		
70	R: G 10 T: G 5	O		

No.	NAME	I/O	FUNCTION	ACT
71	-VFDP		Electric potential for EDP (-30 V)	—
72	VDD		+5 V Power source input	—
73	NC		+5 V Power source input	—
74	TEST	I	TEST MODE judgment input	H
75	PLL_DT	O	PLL communication data output (LM7001) and change-over function (TC9164N)	—
76	PLL_CK	O	PLL communication clock output (LM7001) and change-over function (TC9164N)	—
77	PLL_CE	O	PLL communication chip enable output (LM7001)	H
78	RDS_CK	I	Each bit from LC7073 synchronizing clock input	—
79	AC	I	WAKE • UP AC pulse input	—
80	RDS_OUT	I	Judging RDS signals output or not	L

*1 : Functions will be changed according to setting (L or H) of Pin 19.

8. FOR HBWXX, HEWZXX AND HEWIXX TYPES

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The \triangle mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohms and 47k ohms (Tolerance is shown by J = 5%, and K = 10%).

560 Ω \rightarrow 56 $\times 10^1$ \rightarrow 561 ----- RD1/8PM $\boxed{5}\boxed{6}\boxed{1}$ J

47k Ω \rightarrow 47 $\times 10^3$ \rightarrow 473 ----- RD1/4PS $\boxed{4}\boxed{7}\boxed{3}$ J

0.5 Ω \rightarrow 0R5 ----- RN2H $\boxed{0}\boxed{R}\boxed{5}$ K

1 Ω \rightarrow 010 ----- RS1P $\boxed{0}\boxed{1}\boxed{0}$ K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω \rightarrow 562 $\times 10^1$ \rightarrow 5621 ----- RN1/4PC 5 6 2 1 F

HBWXX, HEWZXX, HEWIXX and HEXX have the same construction except for the following:

Mark	Symbol & Description	Part No.				Remarks
		HEXX	HBWXX	HEWZXX	HEWIXX	
NSP	TUNER ASSY POWER ASSY RDS ASSY CONTROL ASSY FM/AM TUNER MODUL	AWE7009 AWZ7709 AWZ7711 AWZ7714 AXQ7040	AWE7009 AWZ7709 AWZ7711 AWZ7714 AXQ7040	AWE7010 AWZ7710 AWZ7712 AWZ7715 AXQ3226	AWE7011 AWZ7710 AWZ7713 AWZ7715 AXQ3226	
\triangle \triangle	C2 Ceramic capacitor AC power cord Fuse (5A/250V) Operating instructions (English, French, German, Swedish, Italian, Dutch, Spanish, Portuguese)	CKDYB102K50 ADG1138 Not used ARE7031	CKDYB102K50 ADG1148 AEK1046 Not used	Not used ADG1138 Not used Not used	Not used ADG1138 Not used Not used	With AC power cord
	Operating instructions (English) Operating instructions (German) Operating instructions (Italian) Air cap Packing case	Not used Not used Not used Not used AHD7133	ARB7032 Not used Not used AHG1203 AHD7134	Not used ARC7051 Not used Not used AHD7133	Not used Not used ARC7052 Not used AHD7133	For AC power cord

● POWER ASSY

Although AWZ7715 and AWZ7714 are different in part number, they have the same service parts.

● RDS ASSY

AWZ7712, AWZ7713 and AWZ7711 have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		AWZ7711	AWZ7712	AWZ7713	
	L303 R305, R306	LAU010J RD1/8PM332J	LAU2R2J Not used	LAU2R2J RD1/8PM332J	

● CONTROL ASSY

AWZ7715 and AWZ7714 have the same construction except for the following:

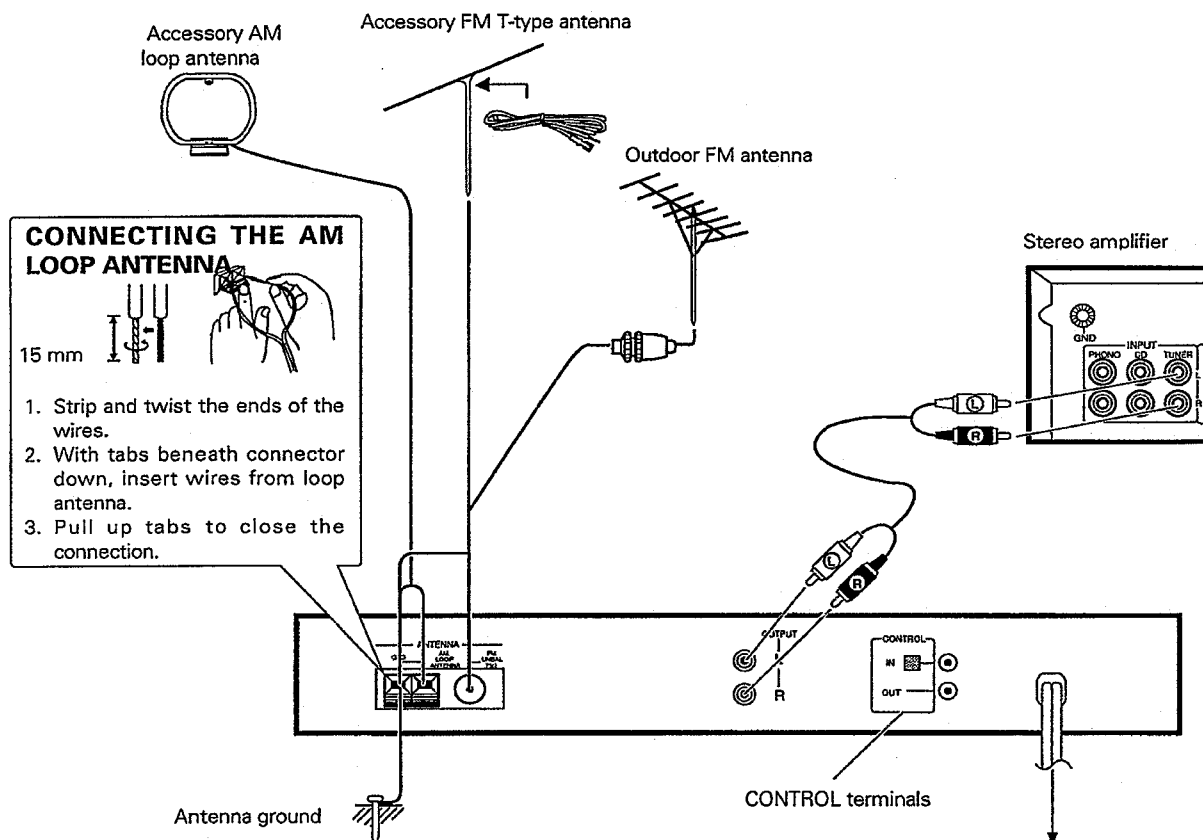
Mark	Symbol & Description	Part No.		Remarks
		AWZ7714	AWZ7715	
	R419 R420	RD1/8PM473J RD1/8PM222J	RD1/8PM104J Not used	

● FM/AM TUNER MODUL

AXQ3226 and AXQ7040 have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		AXQ7040	AXQ3226	
	Q6205, Q6206 Q6207 - Q6209, Q6210, Q6216 D6202 C6115 C6126	XDA124EK XDC124EK 1SS184 CKSQYB103K50 Not used	Not used Not used Not used CKSQYB102K50 CKSQYB102K50	
	C6203 C6211 C6216, C6217 C6219 C6231, C6233	CCSQCH221J50 CKSQYF473Z50 CEAS330M25 CEAS470M25 CEAS3R3M50	Not used Not used CEAS330M16 CEAS470M10 CEAS100M50	
	C6243 - C6245 C6256 R6204 - R6206 R6207, R6208 R6263	CEAS470M25 Not used RS1/10S103J RS1/10S102J RS1/8S000J	CEAS470M16 CKSQYF223Z50 Not used Not used Not used	
	R6264, R6285, R6286, R6310 R6276 R6288 AM RF tuning block	RS1/10S000J Not used Not used AXX1042	Not used RS1/8S000J RS1/10S000J AXX1041	

9. CONNECTIONS



Antenna ground

Although grounding is not always necessary for reception, it is recommended for protection against damage from lightning if an outdoor FM antenna is used. It is also recommended for reducing noise and hum.

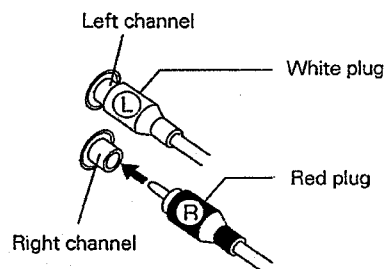
CAUTION:

Never make the ground connection to a gas pipe as sparks can cause the gas to ignite.


Pin plug connecting cord

- Connect the white plug to the white terminal (L) and the red plug to the red terminal (R).
- Make sure that the connections are secure.

Plug the power cord into an AC wall socket.

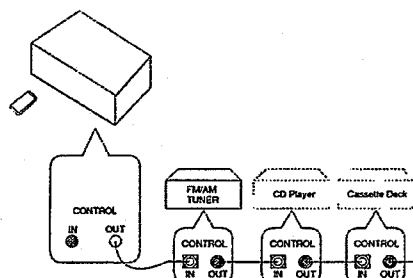


CONTROL Terminals

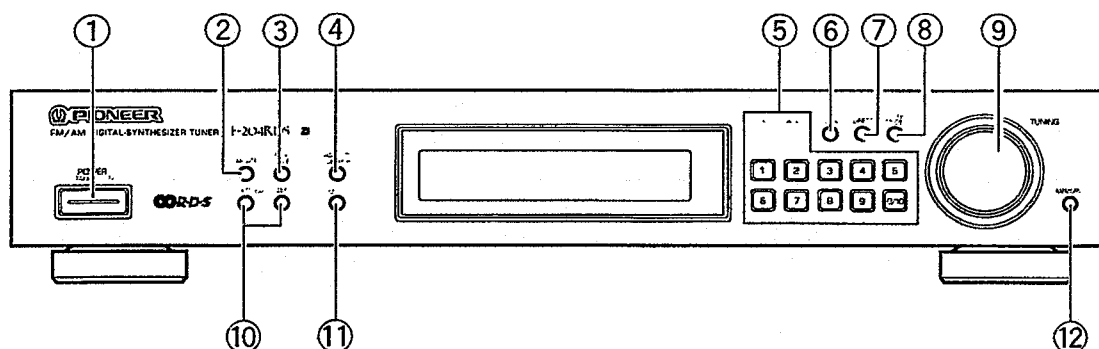
When using together with a Pioneer component bearing the  mark, connect the CONTROL IN terminal on the rear panel of the tuner to the CONTROL OUT terminal on the component using the supplied control cord. This will enable the tuner to be controlled from a distance with the remote control unit supplied with the component.

When this feature is not used, connection is not necessary.

- For instructions regarding connection and operation, please refer to the operating instruction manual of your stereo component.



10. FRONT PANEL FACILITIES



① POWER (STANDBY/ON) switch

This is the switch for electric power.

ON When set to ON position, power is supplied and the unit becomes operational.

STANDBY When set to STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.

NOTE:

- The memory will be backed up so long as the power cord is unplugged.
- If the power cord is unplugged, the memory will be retained for several days.
- When not using the unit for a long period, disconnect the power cord.

② RF ATT button

Set this button to on when receiving strong FM signals (nearby stations) to reduce sound distortion (RF ATT indicator lights).

Normally, this button should be set to off.

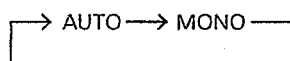
This button does not affect AM reception.

NOTE:

This button's status is preset for each station in station memory.

③ MPX (multiplex) MODE button

Mode changes as follows each time this button is pressed



This button does not affect AM reception.

AUTO:

"AUTO" is not displayed.

Normally leave in this mode for reception. When a stereo FM broadcast is received, it will be automatically reproduced in stereo sound and the STEREO indicator lights up.

NOTE:

When the signal level is too weak for reception, sound output is automatically muted.

MONO:

MONO indicator lights up.

To receive stereo broadcasts in monaural.

If there is too much noise during stereo reception of a weak signal, you can reduce the level of noise by switching to MONO.

NOTE:

This button's status is preset for each station in station memory.

④ CHARACTER/SEARCH button

When receiving an AM broadcast, or when in the FM RT or PS mode:

Press this button, "INPUT" is displayed, and the mode switches to manual station name input.

When in the FM PTY mode:

Press this button, "SEARCH" is displayed, and the mode switches to program type search.

⑤ STATION CALL buttons

Use these buttons to preset stations and to receive the already preset stations.

These are also used when performing direct access tuning.

⑥ CLASS button

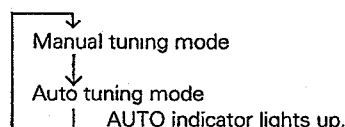
Use to switch between preset memory classes 1 to 3. In each class, 10 stations can be memorized using the STATION CALL buttons, enabling a total of 30 stations to be memorized.

⑦ DIRECT button

When this button is pressed, the STATION CALL buttons function as ten-key number buttons for direct input of the desired reception frequency. Press again to cancel this mode.

⑧ TUNING MODE button

Each time you press this button, the TUNING knob's function changes as follows.



- Auto Tuning is not possible on the LW band.

⑨ TUNING knob

Use for tuning. To raise the frequency, turn in a clockwise direction; to lower the frequency, turn counterclockwise.

AM: For MW, frequency changes in 9 kHz steps.

For LW, frequency changes in 1 kHz steps.

FM: Frequency changes in 50kHz steps.

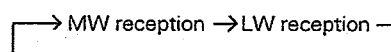
In the Station Name input mode, PTY Search mode, the TUNING knob is used to select characters and program types.

⑩ BAND selector buttons

These buttons are used to select either FM or AM reception.

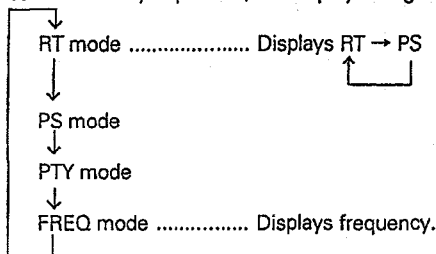
FM: Press to receive FM broadcasts.

AM: The bands change alternately as follows, each time this button is pressed.

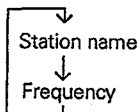


⑪ **DISPLAY MODE button**

Use only during FM reception. Use this to switch between display modes. Each time you press it, the display changes as follows.



When receiving AM, valid only when the station name is memorized.



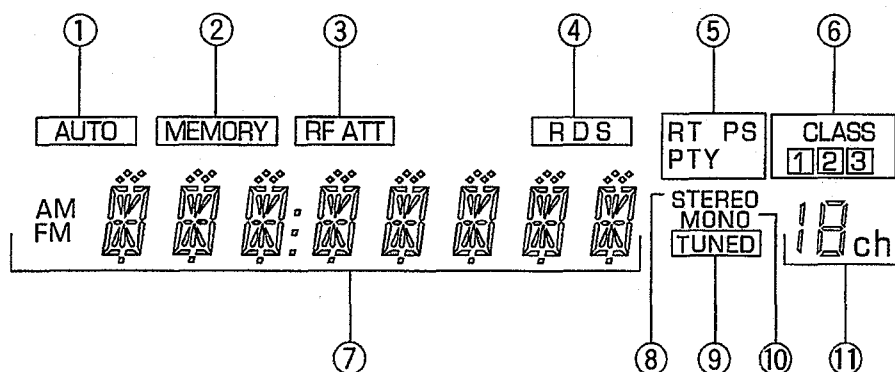
Does not show other displays. When no station name is memorized, the DISPLAY MODE button becomes invalid.

⑫ **MEMORY button**

Use to preset stations.

This is also used for FM or AM broadcast manual station name character selection.

● **DISPLAY**



① **AUTO indicator**

Lights during auto tuning mode.

② **MEMORY indicator**

③ **RF ATT indicator**

Stays lit while RF ATT button is on.

④ **RDS indicator**

Lights when an RDS broadcast is received.

⑤ **RT, PS, PTY indicator**

One of these lights to indicate the selected display mode (selected by the DISPLAY MODE button).

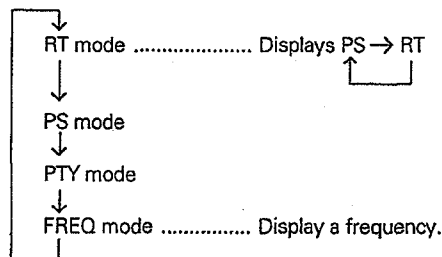
⑥ **CLASS 1, 2, 3 indicator**

Shows the class selected by the CLASS button. The current CLASS is displayed.

⑦ **Frequency and character display section**

Band and frequency data is displayed.

During FM reception, the display changes as follows each time the DISPLAY MODE button is pressed.



⑧ **STEREO indicator**

Lights up when a stereo broadcast is received (the indicator does not light when the MPX MODE button is set to MONO).

⑨ **TUNED indicator**

Lights when a broadcast is received.

⑩ **MONO indicator**

Stays lit while MPX MODE button is set to MONO.

⑪ **Station display section**

When STATION CALL buttons are pressed, it will show the corresponding station number.

11. SPECIFICATIONS

FM Tuner Section

Frequency Range	87.5 MHz to 108 MHz
Usable Sensitivity	
NORMAL	Mono: 12.7 dBf, IHF (1.2 μ V/75 Ω)
50 dB Quieting Sensitivity	
NORMAL	Mono: 18.0 dBf, IHF (2.2 μ V/75 Ω)
	Stereo: 38.3 dBf, IHF (22.6 μ V/75 Ω)
Sensitivity (DIN)	
NORMAL	Mono: 1.0 μ V/75 Ω
	Stereo: 50 μ V/75 Ω
Signal-to-Noise Ratio	Mono: 76 dB (at 80 dBf)
	Stereo: 72 dB (at 80 dBf)
Signal-to-Noise Ratio (DIN)	Mono: 62 dB
	Stereo: 58 dB
Distortion (at 80 dBf)	
NARROW	Mono: 0.5 % (1 kHz)
	Stereo: 0.6 % (1 kHz)
Alternate Channel Selectivity	70 dB (400 kHz)
Stereo Separation	40 dB (1 kHz)
Frequency Response	± 1 dB (30 Hz to 15 kHz)
Image Response Ratio	80 dB
IF Response Ratio	90 dB
Antenna Input	75 Ω unbalanced

AM (MW) Tuner Section

Frequency Range	531 kHz to 1,602 kHz (Step 9 kHz)
Sensitivity (IHF, Loop antenna)	350 μ V/m
Selectivity	30 dB
Signal-to-Noise Ratio	50 dB
Image Response Ratio	40 dB
IF Response Ratio	50 dB
Antenna	Loop Antenna

AM (LW) Tuner Section

Frequency Range	153 kHz to 281 kHz
Sensitivity (IHF, Loop antenna)	1,000 μ V/m
Selectivity	30 dB
Signal-to-Noise Ratio	50 dB
Image Response Ratio	40 dB
IF Response Ratio	50 dB
Antenna	Loop Antenna

Audio Section

Output (Level/Impedance)	
FM (100 % MOD)	650 mV/2.5 k Ω
AM (30 % MOD)	150 mV/2.5 k Ω

Miscellaneous

Power Requirements	AC 230 Volts~, 50/60 Hz
Power Consumption	15 W
Dimensions	420 (W) x 75 (H) x 292.9 (D) mm
Weight (without package)	2.7 kg

Furnished Parts

FM T-type Antenna	1
AM Loop Antenna	1
Connecting Cord with Pin Plugs	1
Control Cord	1
Operating Instructions	1

NOTE:

Specifications and design are subject to possible modifications without notice, due to improvements.